

AMENDMENTS TO CLAIMS

Please amend the claims as follows:

1. **(currently amended)** A program storage device readable by a computer tangibly embodying one or more programs of instructions executable by the computer to perform a method for dynamically ~~resizing~~ expanding mirrored virtual disks in a ~~[[RAID]]~~ virtual disk storage system, the method comprising:
receiving ~~by a source virtual disk~~ a request to dynamically ~~expand~~ resize the
mirrored virtual disks in a RAID storage system, which include the source
virtual disk and at least one destination virtual disk;
~~manipulating RAIDS in the RAID storage system to assigned to~~ associating
additional storage with the mirrored virtual disks prior to resizing the
~~mirrored virtual disks;~~
~~resizing the mirrored virtual disks~~ reporting respective new sizes of each of the at
least one destination virtual disk before reporting a new storage size of the
source virtual disk; and
~~providing the resized mirrored virtual disks for operation~~
reporting the new size of the source virtual disk.
2. **(currently amended)** The program storage device of claim 1 wherein the ~~request~~
~~to dynamically resize mirrored virtual disks in a RAID storage system is a~~
~~request to dynamically expand mirrored virtual disks in a RAID storage system,~~
~~and wherein the manipulating RAIDS step of associating additional storage~~
further comprises:
creating an amount of storage by providing RAIDS on each subsystem that is
associated with each component of a mirror set;
assigning the RAIDS to a specific virtual disk for a mirror device; and
specifying a size for the virtual disk and mapping the size of the virtual disk
directly to all components of the mirror set.

3. **(original)** The program storage device of claim 2 wherein the specifying a size for the virtual disk and mapping the size of the virtual disk is performed by an operating system.
4. **(currently amended)** ~~The program storage device of claim 1 wherein the request to dynamically resize~~ A program storage device readable by a computer tangibly embodying one or more programs of instructions executable by the computer to perform a method for dynamically resizing mirrored virtual disks in a RAID storage system, the method comprising:
receiving is a request to dynamically shrink mirrored virtual disks in a RAID storage system;
[[and]] manipulating [[the]] RAIDS to provide the desired resizing in the RAID storage system assigned to the mirrored virtual disks prior to resizing the mirrored virtual disks, wherein the step of manipulating further comprises specifying a size of a virtual disk and mapping the size of the virtual disk directly to all components of a mirror set, and
detaching any RAID's that extend beyond the specified size of the virtual disk; and
truncating RAID's to free up any excess physical segments back into the RAID storage system;
resizing the mirrored virtual; and
providing the resized mirrored virtual disks for operation.
5. **(original)** The program storage device of claim 4 wherein the specifying a size for the virtual disk and mapping the size of the virtual disk is performed by an operating system.
6. **(canceled)**
7. **(currently amended)** A program storage device readable by a computer tangibly

embodying in a tangible medium one or more programs of instructions executable by the computer to perform a method for dynamically shrinking mirrored virtual disks in a RAID storage system, the method comprising: specifying a size of a virtual disk and mapping the size of the virtual disk directly to all components of a mirror set; detaching any RAID's that extend beyond the specified size of the virtual disk; and truncating RAID's to free up any excess physical segments back into the RAID storage system.

8. **(canceled)**
9. **(currently amended)** The apparatus of claim ~~[[8]]~~23, wherein ~~the processor is further configured for~~ creating an amount of ~~[[storage necessary by providing]]~~ necessary storage includes providing RAID's on each subsystem that is associated with each component of a mirror set, attaching the RAID's to a specific virtual disk for a mirror device and specifying a size for the virtual disk and mapping the size of the virtual disk directly to all components of the mirror set.
10. **(currently amended)** ~~The~~ An apparatus ~~of claim 8 wherein~~ for dynamically resizing mirrored virtual disks in a RAID storage system, comprising:
a storage system interface for providing access to a storage system;
host side interface for communicating with host devices; and
a processor, coupled to the host side interface and the storage system interface,
the processor is further being configured for receiving a request to
dynamically resize mirrored virtual disks in a RAID storage system,
manipulating RAID's in the RAID storage system assigned to the mirrored
virtual disks prior to resizing the mirrored virtual disks, resizing the
mirrored virtual disks, specifying a size of a virtual disk and mapping the size of the virtual disk directly to all components of a mirror set, detaching any RAID's that extend beyond the specified size of the virtual disk,

[[and]] truncating RAID's to free up any excess physical segments back into the RAID storage system and providing the resized mirrored virtual disks for operation.

11. (canceled)

12. (canceled)

13. **(currently amended)** ~~[[The]]~~ A storage area network of claim 11, comprising:
a plurality of hosts;
at least one access device, coupled to the plurality of hosts, for managing data
input/output operations; and
a storage platform, for providing networked storage to the at least one access
device, the storage platform including a management device for
dynamically resizing mirrored virtual disks in a RAID storage system, the
management device further comprising:
a storage system interface for providing access to a storage system;
a host side interface for communicating with host devices; and
a processor, coupled to the host side interface and the storage system
interface, wherein the processor is further being configured for
receiving a request to dynamically resize mirrored virtual disks in a
RAID storage system, manipulating RAID's in the RAID storage
system assigned to the mirrored virtual disks prior to resizing the
mirrored virtual disks, resizing the mirrored virtual disks,
providing the resized mirrored virtual disks for operation,
specifying a size of a virtual disk and mapping the size of the
virtual disk directly to all components of a mirror set, detaching
any RAID's that extend beyond the specified size of the virtual disk
and truncating RAID's to free up any excess physical segments back
into the RAID storage system.

14. (canceled)
15. (canceled)
16. **(currently amended)** An [[The]] apparatus [[of claim 14]] for dynamically resizing mirrored virtual disks in a RAID storage system, comprising:
first means for providing an interface to a storage system;
second means for providing communication with host devices; and
means, coupled to the host side interface and the storage system interface, for
receiving a request to dynamically resize mirrored virtual disks in a RAID
storage system,
manipulating RAIDs in the RAID storage system assigned to the mirrored
virtual disks prior to resizing the mirrored virtual disks, wherein
the means for manipulating further comprises means for specifying
a size of a virtual disk and mapping the size of the virtual disk
directly to all components of a mirror set, detaching any RAIDs that
extend beyond the specified size of the virtual disk and truncating
RAIDs to free up any excess physical segments back into the RAID
storage system,
resizing the mirrored virtual disks, and
providing the resized mirrored virtual disks for operation.
17. **(new)** The program storage device of claim 1, further comprising:
providing by the source virtual disk continuous availability for normal disk
access operations between the step of receiving a request and the step of
reporting the new storage size of the source virtual disk, inclusive.
18. **(new)** The program storage device of claim 17, further comprising:
providing by one of the set of destination virtual disks continuous mirroring of
the source virtual disk between the step of receiving a request and the step

of reporting the new storage size of the source virtual disk.

19. **(new)** The program storage device of claim 1, wherein a first of the mirrored virtual disks has a different virtualization configuration from a second of the mirrored virtual disks.
20. **(new)** A method, comprising:
receiving a request to dynamically resize mirrored virtual disks, the mirrored virtual disks comprising a source virtual disk and a set of destination virtual disks that includes at least one destination virtual disk;
associating additional storage with the mirrored virtual disks;
reporting respective new storage sizes of each destination virtual disk before
reporting a new storage size of the source virtual disk; and
reporting the new storage size of the source virtual disk.
21. **(new)** The method of claim 20, wherein the request is received by the source virtual disk.
22. **(new)** The method of claim 21, wherein, in the step of receiving, the request is received electronically from a host and, in the step of reporting the new storage size of the source virtual disk, the new storage size of the source virtual disk is reported to the host.
23. **(new)** An apparatus, comprising:
a set of mirrored virtual disks, including a source virtual disk and at least one destination virtual disk, the at least one destination virtual disk mirroring the source virtual disk;
a management module that includes
a host side interface adapted to communicating with host devices, through

which the management module is adapted by logic to report the size of the mirrored virtual disks and to receive a request to expand the mirrored virtual disks;

a storage system interface for communicating with the virtual disks that is adapted to requesting the source virtual disk to expand and to obtain reports of the size of the virtual disks from the source virtual disk;

logic adapted to

provide reports of the size of the source virtual disk to the management module through the storage system interface,

satisfy an expansion request by creating an amount of necessary storage before changing the size that is reported by the source, and changing the size that is reported by the source.

24. **(new)** The apparatus of claim 23, further comprising:
a host device adapted to send a request to the management module to expand the mirrored virtual disks.